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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/977,685      | 10/16/2001  | Tomomasa Ohsumi      | 07481.0019          | 3847             |

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Finnegan, Henderskon, Farabow,  
Garrett & Dunner, L.L.P.  
1300 I Street, N.W.  
Washington, DC 20005-3315

EXAMINER

MCAVOY, ELLEN M

ART UNIT PAPER NUMBER

1764

DATE MAILED: 03/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

### Application No.

09/977,685

### Applicant(s)

OHSUMI ET AL.

### Examiner

Ellen M McAvoy

### Art Unit

1764

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-3 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 October 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |  |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>3/12/02 1/16/02</u> | 6) <input type="checkbox"/> Other: ____  |

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tolfa et al (6,267,907), Tazaki (6,306,803), and Fahl et al (WO 98/50499), considered separately.

Tolfa et al ["Tolfa"] discloses a lubricant-refrigerant composition for a compression refrigeration system which comprises (A) a carbon dioxide refrigerant, and (B) a lubricant of an aliphatic naphthalene. Tolfa teaches that a supplemental lubricant such as a polyalkylene glycol may also be present. The examiner is of the position that the polyalkylene glycol set forth in column 8, lines 8-12, meets the limitations of the polyalkene glycol of claim 1 when R<sup>5</sup> is a hydrocarbon group containing from 1 to 30 carbon atoms, R<sup>6</sup> is hydrogen, methyl or ethyl, and R<sup>7</sup> is hydrogen. Tolfa also allows for the addition of performance additives to the composition including an alkoxylated alcohol set forth in column 13, lines 35-56. Applicants open-ended claim language "comprising" allows for the addition of other additives to the composition such as the aliphatic naphthalene component of Tolfa.

Tazaki discloses a refrigerator oil for use in compression refrigerators using a carbon dioxide refrigerant which comprises an oxygen-containing organic component as the base oil having a kinematic viscosity at 100°C of from 5 to 50 mm<sup>2</sup>/s, most preferably from 7 to 20 mm<sup>2</sup>/s. See column 13, top. The base oil includes polyoxyalkylene glycols set forth as general

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formula (I) in column 4, lines 54-56, wherein  $R^1$  may be an alkyl group having from 1 to 10 carbon atoms,  $R^2$  may be an alkylene group having from 2 to 4 carbon atoms, and  $R^3$  may be a hydrogen atom. The examiner is of the position that Tazaki also meets the limitations of the above rejected claims.

Fahl et al ["Fahl"] disclose polyalkylene glycols as lubricants for carbon dioxide refrigerating machines, heat pumps and related systems such as air conditioning systems. The polyalkylene glycols contain (a) at least 40%, preferably 60%, of the monomer units  $-(CH(CH_3)-CH_2-O)-$  and/or  $-(CH_2-CH(CH_3)-O)-$ , and (b) monomer units  $-(R-O)-$  wherein R is a linear or branched saturated alkylene group with 2 to 6 carbon atoms. Fahl teaches that the polyalkylene glycols have hydrogen, alkyl, alkoxy and hydroxy as end groups. Fahl teaches that polyalkylene glycols with only one free hydroxy group is preferred over those with two free hydroxy groups. Fahl teaches that the polyalkylene glycols have a molecular weight from 400 to about 3,000 g/mol. See page 4. The examiner is of the position that Fahl appears to meet the limitations of the above rejected claims.

### ***Conclusion***

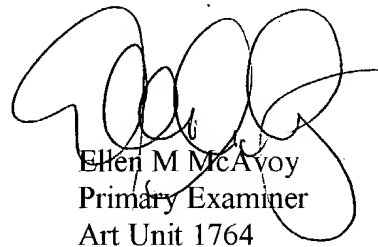
The prior art made of record and not relied upon is considered pertinent to applicants' disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ellen M McAvoy whose telephone number is (571) 272-1451. The examiner can normally be reached on M-F (7:30-5:00) with alt. Fridays off.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Ellen M McAvoy  
Primary Examiner  
Art Unit 1764

EMcAvoy  
March 15, 2004